

1. TRANSMITTED DATA

1-1 CHANNEL MESSAGES [H]:Hex, [D]:Decimal

Status [H]	Second [H] [D]	Third [H]	Description	ENA
Bn	cc	dd	Control Change	C
Cn	pp	--	Program Change	P
En	bb	bb	Pitch Bender	C

C : Transmit when Control Change Enable
P : Transmit when Program Change Enable

n : MIDI Channel Number (0 ~ 15)
cc : Control Number (1 ~ 31, 64 ~ 95)
dd : Control Data (0 ~ 127)
pp : Program Number (0 ~ 99)
bb : Pitch Bender Data (0 ~ 16383)

1-2 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES

DEVICE INQUIRY REPLY		Transmit
Byte[H]	Description	
F0	Exclusive Status	
7E	Non Realtime Message	
0c	MIDI Channel (Device ID)	
06	Inquiry Message	
02	Identity reply	
42	KORG ID (Manufacturers ID)	
67	KP2 ID (Family ID (LSB))	
00	(Family ID (MSB))	
00	(Member ID (LSB))	
00	(Member ID (MSB))	
xx	ROM No. 1~ (Minor Ver. (LSB))	
00	(Minor Ver. (MSB))	
xx	Soft Version (Major Ver. (LSB))	
00	(Major Ver. (MSB))	
F7	End of Exclusive	

This message is transmitted whenever a INQUIRY MESSAGE REQUEST is received.

1-3 SYSTEM EXCLUSIVE MESSAGES

KP2 System Exclusive

1st Byte = 1111 0000 (F0) : Exclusive Status	Ex.Header
2nd Byte = 0100 0010 (42) : KORG ID	
3rd Byte = 0011 nnnn (3n) : Format ID n:MIDI Channel	
4th Byte = 0100 1011 (67) : KP2 ID	
5th Byte = 0fff ffff (ff) : Function Code	
6th Byte = 0ddd dddd (dd) : Data	
:	
LastByte = 1111 0111 (F7) : End of Exclusive	

TRANSMIT SYSTEM EXCLUSIVE MESSAGES

Function ID [Hex]		R	E
49	CURRENT MAP DATA DUMP	o	
4D	MAP DATA DUMP	o	
51	GLOBAL DATA DUMP	o	
50	ALL DATA DUMP	o	
26	DATA FORMAT ERROR		o
23	DATA LOAD COMPLETED		o
24	DATA LOAD ERROR		o
21	WRITE COMPLETED		o
22	WRITE ERROR		o

Transmitted when

R : Request message is received
E : Exclusive message is received

2.RECOGNIZED RECEIVE DATA

2-1 CHANNEL MESSAGES

Status [Hex]	Second [H] [D]	Third [H]	Description	ENA
Bn	cc	dd	Control Change	C
Bn	79(121)	00	Reset All Controllers	A
Cn	pp	--	Program Change	P
En	bb	bb	Pitch Bender	C

n : MIDI Channel Number (0 ~ 15)
 cc : Control Number (1 ~ 31, 64 ~ 95)
 dd : Control Data (0 ~ 127)
 pp : Program Number (0 ~ 99)
 bb : Pitch Bender Data (0 ~ 16383)

ENA = P : Enabled when MIDI Program Change Enable
 C : Enabled when MIDI Control Change Enable
 A : Always Enabled

2-2 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES

DEVICE INQUIRY MESSAGE REQUEST		Receive
Byte[H]	Description	
F0	Exclusive Status	
7E	Non Realtime Message	
nn	MIDI Channel	
06	Inquiry Message	
01	Inquiry Request	
F7	End of Exclusive	

When receive this message and transmits Inquiry Reply Message.
 nn = 00 ~ 0F : Receive if same Channel
 7F : Receive any Channel

2-3 SYSTEM EXCLUSIVE MESSAGES

RECEIVE SYSTEM EXCLUSIVE MESSAGE	
Function ID [Hex]	Function
19	CURRENT MAP DATA DUMP REQUEST
1D	MAP DATA DUMP REQUEST
0E	GLOBAL DATA DUMP REQUEST
0F	ALL DATA DUMP REQUEST
11	MAP WRITE REQUEST
49	CURRENT MAP DATA DUMP
4D	MAP DATA DUMP
51	GLOBAL DATA DUMP
50	ALL DATA DUMP

MIDI EXCLUSIVE FORMAT (R:Receive, T:Transmit)

(1) CURRENT MAP DATA DUMP REQUEST		R
Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0001 1001 (19)	CURRENT MAP DATA DUMP REQUEST	19H
1111 0111 (F7)	EOX	

When this message is received, the CURRENT MAP DATA DUMP
 (Function:49h) message will be transmitted.

(2) MAP DATA DUMP REQUEST

R

Byte	Description
F0,42,3c,67	EXCLUSIVE HEADER
0001 1101 (1D)	MAP DATA DUMP REQUEST
1111 0111 (F7)	EOX

When this message is received, the MAP DATA DUMP(Function:4Dh) message will be transmitted.

(3) GLOBAL DATA DUMP REQUEST

R

Byte	Description
F0,42,3c,67	EXCLUSIVE HEADER
0000 1111 (0E)	GLOBAL DATA DUMP REQUEST
1111 0111 (F7)	EOX

When this message is received, the GLOBAL DATA DUMP(Function:51h) message will be transmitted.

(4) ALL DATA DUMP REQUEST

R

Byte	Description
F0,42,3c,67	EXCLUSIVE HEADER
0000 1111 (0F)	ALL DATA DUMP REQUEST
1111 0111 (F7)	EOX

When this message is received, the ALL DATA DUMP(Function:50h) message will be transmitted.

(5) MAP WRITE REQUEST

R

Byte	Description
F0,42,3c,67	EXCLUSIVE HEADER
0001 0001 (11)	MAP WRITE REQUEST
0000 0mmm (0m)	Destination Map Number
1111 0111 (F7)	EOX

When this message is received, a WRITE COMPLETED(Function:21h) message or a WRITE ERROR(Function:22h) message will be transmitted.

(6) CURRENT MAP DATA DUMP

R/T

Byte	Description
F0,42,3c,67	EXCLUSIVE HEADER
0100 1100 (49)	CURRENT MAP DATA DUMP
0ddd dddd (dd)	Data
:	:
1111 0111 (F7)	EOX

When this message is received, a DATA LOAD COMPLETED(Function:23h) message or a DATA LOAD ERROR(Function:24h) message will be transmitted. This message is transmitted whenever a CURRENT MAP DATA DUMP REQUEST (Function:19h) is received.

(7) MAP DATA DUMP

R/T

Byte	Description
F0,42,3c,67	EXCLUSIVE HEADER
0100 1100 (4D)	MAP DATA DUMP
0ddd dddd (dd)	Data
:	:
1111 0111 (F7)	EOX

When this message is received, a DATA LOAD COMPLETED(Function:23h)

message or a DATA LOAD ERROR(Function:24h) message will be transmitted.
This message is transmitted whenever a MAP DATA DUMP REQUEST
(Function:1Dh) is received.

(8) GLOBAL DATA DUMP

R/T

Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0101 0001 (51)	GLOBAL DATA DUMP	51H
0ddd dddd (dd)	Data	[NOTE 4][TABLE 2]
:	:	
1111 0111 (F7)	EOX	

When this message is received, a DATA LOAD COMPLETED(Function:23h)
message or a DATA LOAD ERROR(Function:24h) message will be transmitted.
This message is transmitted whenever a GLOBAL DATA DUMP REQUEST
(Function:0Eh) is received.

(9) ALL DATA DUMP

R/T

Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0101 0000 (50)	ALL DATA DUMP	50H
0ddd dddd (dd)	Data	[NOTE 5][TABLE 1][TABLE 2]
:	:	
1111 0111 (F7)	EOX	

When this message is received, a DATA LOAD COMPLETED(Function:23h)
message or a DATA LOAD ERROR(Function:24h) message will be transmitted.
This message is transmitted whenever a ALL DATA DUMP REQUEST
(Function:0Fh) is received.

(10) DATA FORMAT ERROR

T

Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0010 0110 (26)	DATA FORMAT ERROR	26H
1111 0111 (F7)	EOX	

Transmits this message when there is an error in MIDI in message.

(11) DATA LOAD COMPLETED

T

Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0010 0011 (23)	DATA LOAD COMPLETED	23H
1111 0111 (F7)	EOX	

Transmits this message when DATA LOAD, PROCESSING have been
completed.

(11) DATA LOAD ERROR

T

Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0010 0100 (24)	DATA LOAD ERROR	24H
1111 0111 (F7)	EOX	

Transmits this message when DATA LOAD, PROCESSING have not been
completed.

(12) WRITE COMPLETED

T

Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0010 0001 (21)	WRITE COMPLETED	21H
1111 0111 (F7)	EOX	

Transmits this message when DATA WRITE by MIDI has been completed.

(13) WRITE ERROR

T

Byte	Description	
F0,42,3c,67	EXCLUSIVE HEADER	
0010 0010 (22)	WRITE ERROR	22H
1111 0111 (F7)	EOX	

Transmits this message when DATA WRITE by MIDI has not been completed.

Dump Data Format

n = 0, 1, ...

DATA (1set = 8bit x 7byte)

b7	~	b0	b7	~	b0	b7	~	b0	b7	~	b0
+	+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+	+
7n+0			7n+1			7n+2	~	7n+5			7n+6

MIDI DATA (1set = 7bit x 8Byte)

b7b7b7b7b7b7b7	b6	~	b0	b6	~	b0	b6	~	b0
+	+	+	+	+	+	+	+	+	+
0				0			0		
+	+	+	+	+	+	+	+	+	+
7n+6,5,4,3,2,1,0	7n+0			7n+1 ~ 7n+5			7n+6		

NOTE 1 : mmm = 0 ~ 7

NOTE 2 : CURRENT MAP DATA DUMP FORMAT

[Map Data (12byte)]

12byte = 7 * 1 + 5 --> 8 * 1 + (5 + 1) = 14byte

(See TABLE 1)

NOTE 3 : MAP DATA DUMP FORMAT

[Map.1 (12byte)], ... , [Map.8 (12byte)]

96byte = 7 * 13 + 5 --> 8 * 13 + (5 + 1) = 110byte

(See TABLE 1)

NOTE 4 : GLOBAL DATA DUMP FORMAT

[Global Data (10byte)]

10byte = 7 * 1 + 3 --> 8 * 1 + (3 + 1) = 12byte

(See TABLE 2)

NOTE 5 : ALL DATA DUMP FORMAT

[Global Data (10byte)],

[Map.1 (12byte)], ... , [Map.8 (12byte)]

106byte = 7 * 15 + 1 --> 8 * 15 + (1 + 1) = 122byte

(See TABLE 2)

(See TABLE 1)

TABLE 1 :

+0	PROGRAM NUMBER (0~99)
+1 bit0	SAMPLE BANK NUMBER (0/1)
bit1~6	(RESERVED)
bit7	HOLD OFF/ON (0=OFF, 1=ON)
+2	FX DEPTH
+3	HOLD X
+4	HOLD Y
+5	HOLD X2
+6	HOLD Y2
+7	HOLD X3
+8	HOLD Y3
+9	(RESERVED)
+10~11	BPM

TABLE 2 :

+0	(RESERVED)
+1 bit7	MIDI PROGRAM CHANGE ENA/DIS (0=DIS, 1=ENA)
bit6~1	(RESERVED)
bit0	MIDI CLOCK ENA/DIS (0=DIS, 1=ENA)
+2 bit7	MIDI MUTE ENA/DIS (0=ENA, 1=DIS)
bit6	MIDI FX DEPTH ENA/DIS (0=ENA, 1=DIS)
bit5	MIDI TOUCH PAD ON/OFF ENA/DIS (0=ENA, 1=DIS)
bit4	MIDI TOUCH PAD Y ENA/DIS (0=ENA, 1=DIS)
bit3	MIDI TOUCH PAD X ENA/DIS (0=ENA, 1=DIS)
bit2	MIDI TOUCH PAD X+Y ENA/DIS (0=ENA, 1=DIS)
bit1	MIDI TOUCH PAD -Y ENA/DIS (0=ENA, 1=DIS)
bit0	MIDI TOUCH PAD +Y ENA/DIS (0=ENA, 1=DIS)
+3	(RESERVED)
+4	MIDI TOUCH PAD X+Y CTRL#
+5	MIDI TOUCH PAD X CTRL#
+6	MIDI TOUCH PAD Y CTRL#
+7	MIDI TOUCH PAD ON/OFF CTRL#
+8	MIDI FX DEPTH CTRL#
+9	MIDI MUTE CTRL#

CTRL#

1~31,64~95 : CTRL# 1~31,64~95
96 : PITCH BEND